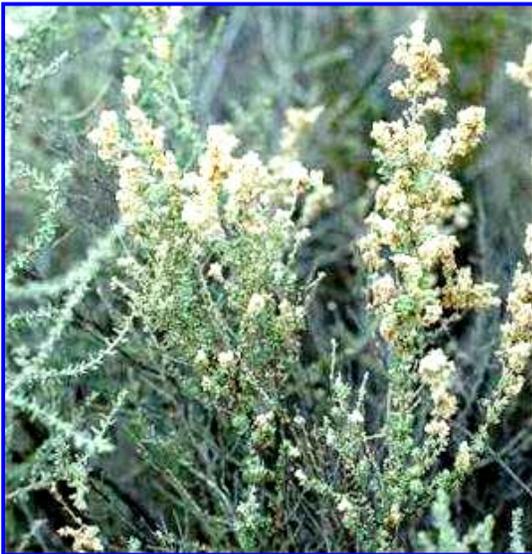


## Desert Saltbush

*Atriplex polycarpa* (Torr.) S. Watson  
plant symbol = APTO

*Contributed by:*  
*Tucson Plant Materials Center*  
*Tucson, Arizona*



### Alternate Names

Cattle Saltbush  
Allscale  
Cattle Spinach

### Key Web Sites

[www.plants.usda.gov](http://www.plants.usda.gov)  
[www.calflora.org](http://www.calflora.org)

Extensive information about this species is linked to the PLANTS web site. To access this information, go to the PLANTS web site, select this plant and utilize the links at the bottom of the Plants Profile for this species.

### Uses

Desert saltbush is primarily an erosion control plant for use on mismanaged rangelands and other critical areas such as abandoned cropland and road cuts. Desert saltbush may also provide

high value forage during the cool seasons of the year.

*Wildlife Potential:* Desert saltbush provides cover for Gambel's quail and dove as well as browse for mule deer and rabbits. It supplies good quality forage for deer. Seeding pure stands provides first-rate habitat for quail. A thick stand may be established by seeding 40 PLS lbs/acre.

*Livestock:* Desert saltbush provides good quality forage for cattle, sheep and goats. It is often found in association with highly unpalatable species and may be the only shrub in areas that are too arid or saline for other species to grow. Its greatest forage value is in the fall, when grassland species provide minimal nutritional contributions. Its nutritional value in crude protein, total digestible nutrients, and fats is comparable to that of alfalfa, and late in the year it is a good source of calcium, phosphorous, and carotenoids. Under cultivation desert saltbush has provided forage yields of 11,500 lbs/acre. This yield potential suggests desert saltbush may be useful as a forage crop on marginal lands subject to prolonged drought and/or excessive salinity.

### Status

Please consult the PLANTS Web site and your State Department of Natural Resources for this plant's current status (e.g. threatened or endangered species, state noxious status, and wetland indicator values).

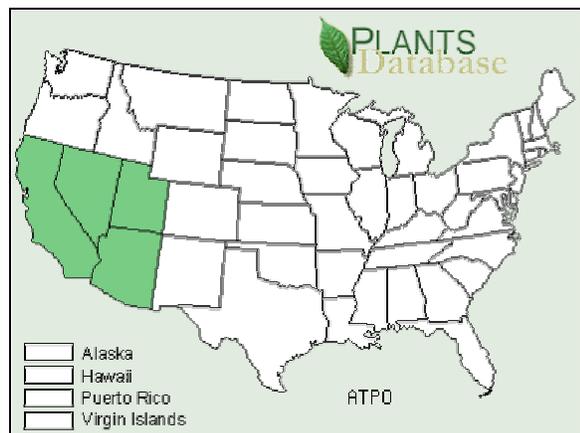
### Description

#### *General:*

Desert saltbush is a perennial intricately branched shrub 3 to 6 feet tall. The branches are gray to yellowish-brown with bark that sheds in long strips. The leaves are alternate oblong to spatula-shaped, 0.12 to 0.78 inches long and coated with small scales on the top and bottom. Male and female flowers are borne on separate plants. The male flowers are in the leaf axils or on terminal spikes. The female flowers crowd along the divergent branches in diffuse flower clusters. The flower color is tan to greenish.

The seed are pale brown and 0.04 to 0.05 inches long. Desert saltbush flowers from May to August. Fruit ripens from October to December and seed disperses from November to May.

*Distribution:*



*Habitat:*

Desert saltbush is found on alkaline plains and occasionally rocky or gravelly slopes in desert or grassland. It is limited to 400-3,000 feet elevation in alkali sinks. Desert saltbush occurs in communities with creosote bush, shadscale and sagebrush. It is scattered throughout the San Joaquin Valley, Mojave and Colorado Deserts in California, southern Nevada, southwestern Utah and Arizona, Baja California, and northwestern California. Its range is less extensive than *Atriplex canescens* and it is less cold tolerant and more drought hardy.

**Adaptation**

*Atriplex polycarpa* flourishes on soils unsuitable for most other species, and is usually absent from less saline soils due to competition from more aggressive species. Large quantities of salt are accumulated in the shoots. Salinity tolerance may be due to accumulation of salt in structures on the leaf surface reducing salinity stress of photosynthetically active tissue. Adult plants have been tested and found to withstand shoot water potential deficits of -69 bars.

Range of adaptation is primarily major land resource areas (MLRA) 30,31 and 40. This includes the Sonoran and Mojave deserts with elevations between 300 and 3,000 feet (91-914 meters) and annual precipitation from 3 to 10

inches (75-250 mm). Potential soils include sandy loam, loam and clay loam as well as moderately saline soils. It is known to grow well on rangelands with soil pH varying for 6-8.

**Establishment**

Desert Saltbush establishes easily when adequate moisture is present in the soil. Further care only involves protection from sheep and cattle. Transplants appear to be more successful than spot seeding under western Mojave Desert conditions. The dry foliage of desert saltbush contains up to 1.2% saponin. Extracts from foliage have been found inhibitory to germination of its own seed and that of several other species. It is unlikely that the seed contain saponin. However, the leaching of seed has been shown to increase germination. Activated carbon treatment resulted in higher germination rates. Best seedling emergence occurs from late spring planting at a depth of 1.25 cm. Covering the seed with as little soil as possible can improve emergence. Seed fill and germination is often better in seed that mature early. The best seed collections are made soon after ripening. Seed that is allowed to remain on the plant loses viability and may even germinate on the plant. Larger seed have increased germination. Separating seed based on size before seeding improves seeding success. Although extremely tolerant of salt in the environment, its germination is reduced with higher salt concentrations.

**Management**

A satisfactory management system would allow only limited use during the summer and fall months. The species has been virtually eradicated by overgrazing in many of its original localities. Phosphorous content in the soil is significantly correlated with foliage yield.

**Environmental Concerns**

Desert saltbush is a native plant and may spread into adjoining areas via seed distribution.

**Cultivars, Improved, and Selected Materials (and area of origin)**

*Blythe germplasm* is a selected release (natural track) of desert saltbush. It has been assigned

the Plant Identification (P.I.) number 399195. Blythe germplasm originated from stands 10 miles north of Blythe, California at an elevation of 880 feet.

### Control

Please contact your local agricultural extension specialist or county weed specialist to learn which controls are best for your area and how to use them safely. Always read the label and safety instructions for each control method.

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